Tully-Fisher Symbolic Regression Equations

Model: classic_TF (Rank 1)

Individual R^2: 0.0000, RMSE: 1.5551
Complexity: 1
Score: 0.000000

$$y = -22.863014$$

Model: classic_TF (Rank 2)

Individual R^2: 0.3819, RMSE: 1.2226
Complexity: 3
Score: 0.240528

$$y = -20.376057 - log\_observed\_velocity$$

Model: classic_TF (Rank 3)

Individual R^2: 0.8895, RMSE: 0.5170
Complexity: 4
Score: 1.721591

$$y = sqrt(log\_observed\_velocity) * -14.527084$$

Model: classic_TF (Rank 4)

Individual R^2: 0.9039, RMSE: 0.4822
Complexity: 5
Score: 0.139431

$$y = -12.502496 - (log\_observed\_velocity * 4.165709)$$

Model: classic_TF (Rank 5)

Individual R^2: 0.9039, RMSE: 0.4822
Complexity: 6
Score: 0.000000

$$y = (abs(log\_observed\_velocity) * -4.165719) + -12.502474$$

Model: classic_TF (Rank 6)

Individual R^2: 0.9046, RMSE: 0.4803
Complexity: 8
Score: 0.003823

$$y = -22.038666 - log((observed\_velocity\_norm^{1}.8537761) + 0.026003096)$$

Model: classic_TF (Rank 7)

Individual R^2: 0.9046, RMSE: 0.4802
Complexity: 10
Score: 0.000145

$$y = (sqrt(log\_observed\_velocity) * (-15.279313 - (0.26560837/observed\_velocity\_norm))) + 1.5221217$$

Model: classic_TF (Rank 8)

Individual R^2: 0.9047, RMSE: 0.4800
Complexity: 11
Score: 0.001159

$$y = ((0.7629954^{o}bserved\_velocity\_norm) + -12.249727) - ((log\_observed\_velocity - -0.6589154) * 3.5723069)$$

Model: classic_TF (Rank 9)

Individual R^2: 0.9047, RMSE: 0.4800
Complexity: 12
Score: 0.000000

$$y = (sqrt(0.5821555^{o}bserved\_velocity\_norm) + -12.258445) - ((log\_observed\_velocity - -0.65573543) * 3.5730937)$$

Model: classic_TF (Rank 10)

Individual R^2: 0.9050, RMSE: 0.4794
Complexity: 13
Score: 0.002547

$$y = (sqrt(log\_observed\_velocity) * (-14.53215 - abs((0.20658731/observed\_velocity\_norm) + -0.07435101))) + 0.17303316$$

Model: inclination_corrected_TF (Rank 1)

Individual R^2: 0.0000, RMSE: 1.5551
Complexity: 1
Score: 0.000000

$$y = -22.86303$$

Model: inclination_corrected_TF (Rank 2)

Individual R^2: 0.3819, RMSE: 1.2226
Complexity: 3
Score: 0.240528

$$y = -20.376057 - log\_observed\_velocity$$

Model: inclination_corrected_TF (Rank 3)

Individual R^2: 0.8895, RMSE: 0.5170
Complexity: 4
Score: 1.721591

$$y = sqrt(log\_observed\_velocity) * -14.527142$$

Model: inclination_corrected_TF (Rank 4)

Individual R^2: 0.9039, RMSE: 0.4822
Complexity: 5
Score: 0.139431

$$y = (log\_observed\_velocity * -4.165768) + -12.502329$$

Model: inclination_corrected_TF (Rank 5)

Individual R^2: 0.9044, RMSE: 0.4809
Complexity: 7
Score: 0.002709

$$y = ((sin\_inclination + log\_observed\_velocity) * -4.197619) + -12.362276$$

Model: inclination_corrected_TF (Rank 6)

Individual R^2: 0.9045, RMSE: 0.4805
Complexity: 8
Score: 0.001419

$$y = (log(observed\_velocity\_norm + 0.058913615)/ - 0.52936757) + -21.959383$$

Model: inclination_corrected_TF (Rank 7)

Individual R^2: 0.9057, RMSE: 0.4776
Complexity: 9
Score: 0.012283

$$y = ((log\_observed\_velocity + (sin\_inclination * observed\_velocity\_norm)) * -4.004966) + -12.799664$$

Model: inclination_corrected_TF (Rank 8)

Individual R^2: 0.9057, RMSE: 0.4774
Complexity: 11
Score: 0.000263

$$y = ((((observed\_velocity\_norm * sin\_inclination)^{0}.9095054) + log\_observed\_velocity) * -3.9674828) + -12.856682$$

Model: inclination_corrected_TF (Rank 9)

Individual R^2: 0.9060, RMSE: 0.4769
Complexity: 12
Score: 0.002258

$$y = log(log\_observed\_velocity) + (((log\_observed\_velocity^{(}observed\_velocity\_norm^{s}in\_inclination)) * -4.296377) + -13.011824$$

Model: inclination_corrected_TF (Rank 10)

Individual R^2: 0.9062, RMSE: 0.4764
Complexity: 13
Score: 0.002203

$$y = (sin\_inclination^{(}(log\_observed\_velocity * sin\_inclination) * observed\_velocity\_norm)) + ((log\_observed\_velocity * -3.774414$$

Model: inclination_corrected_TF (Rank 11)

Individual R^2: 0.9062, RMSE: 0.4762
Complexity: 15
Score: 0.000343

$y = (log\_observed\_velocity * -3.7311282) + ((sin\_inclination^{(}(observed\_velocity\_norm * (log\_observed\_velocity * sin\_inclinatio$

Model: inclination_corrected_TF (Rank 12)

Individual R^2: 0.9063, RMSE: 0.4760
Complexity: 16
Score: 0.000726

$y = (sin\_inclination^{a}bs(((log\_observed\_velocity * observed\_velocity\_norm) * sin\_inclination) - sin\_inclination)) + ((log\_observ$

Model: inclination_corrected_TF (Rank 13)

Individual R^2: 0.9063, RMSE: 0.4760
Complexity: 18
Score: 0.000018

$y = ((log\_observed\_velocity * -3.7468345) + (sin\_inclination^{a}bs(((observed\_velocity\_norm * log\_observed\_velocity) * sin\_inclin$